Notice of Allowability	Application No.	Applicant(s)
	10/635,078	PECK, JOSEPH E.
	Examiner	Art Unit	
	Tuan A. Vu	2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *6/8/07*.

2. ☒ The allowed claim(s) is/are *1, 3-7, 9-10, 12-24, 26-28, 30-32, 34-36, 38-39 (renum 1-32)*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of
        Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *7/6/07* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____ .

DETAILED ACTION

1.   This action is responsive to the Applicant's response filed 6/08/07.

As indicated in Applicant's response, claims 1, 3, 23, 26-28, 30, 32, 34, 36, 38 have been

amended. Claims 1, 3-7, 9-10, 12-24, 26-28, 30-32, 34-36, 38-39 are pending in the office

action.

EXAMINER'S AMENDMENT

2.   An examiner's amendment to the record appears below. Should the changes and/or

additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR

1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the

payment of the issue fee.

3.   Authorization for this examiner's amendment was given in a telephone interview with

Jeff Hood, Reg. # 35198 on 7/6/07.

4.   The application has been amended as follows.

A. In the **CLAIMS**:

Refer to the amended claims, according to the herein attachment, namely 'PROPOSED

RESPONSE FOR ENTRY INTO EXAMINER'S AMENDMENT' dated 7/6/07 (pp. 1-14).

B. In the **Specifications**:

In **page 15**, amend as follows:

Line 6:

'...U.S. Patent Application Serial No. 10/055,691, now issued as U.S. Patent No:

7024660, titled ...'

Line 10:

'...U.S. Patent Application Serial No. 10/058,150, <u>now issued as U.S. Patent No:</u>

<u>7085670,</u> titled....'

Line 15:

'... U.S. Patent Application Serial No. 09/229,695, <u>now issued as U.S. Patent No:</u>

<u>6311149,</u> titled ...'

Line 26:

'... U.S. <u>Provisional</u> Patent Application Serial No. 06 <u>60</u>/312,242 titled ...'

In **page 16**, amend as follows:

Line 4:

'... U.S. Patent Application Serial No. 10/120,257, <u>now issued as U.S. Patent No:</u>

<u>7013232,</u> titled ...'

Line 9:

'... U.S. Patent Application Serial No. 09/891,571, <u>now issued as U.S. Patent No:</u>

<u>6784903,</u> titled ...'

Line 14:

' ... U.S. Patent Application Serial No. 09/745,023, <u>now issued as U.S. Patent No:</u>

<u>7210117,</u> titled ...'

Line 22:

' ... U.S. Patent Application Serial No. 09/886,455, <u>now issued as U.S. Patent No:</u>

<u>7120876,</u> titled ...'

EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE

5.   Claims 1, 3-7, 9-10, 12-24, 26-28, 30-32, 34-36, 38-39 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art taken separately or jointly does not suggest or teach the following features.

A method or computer product for debugging a program to generate a debugged program intended for deployment on a programmable hardware element (PHE), the method comprising instructions to perform:

(i) converting a first portion of the program into a programmable hardware configuration program (PHCP) deployable with the PHE, wherein the remaining portion of the program is to be debugged by the user using a computer system; and configuring the PHE with the PHCP;

(ii) execute the first portion deployed with the configured PHE; analyzing and debugging the remaining portion using the computer system, wherein the debugging includes receiving user input modifying said remaining portion;

(iii) adjusting respective sizes of the first portion based on said debugging; wherein said adjusting includes moving debugged program instructions from the remaining portion to the first portion; and

(iv) repeating the sequence from the converting step (i) to the adjusting step (iii), so to generate a debugged program so as increase the size of the first portion of the program being deployed on the PHE; as recited in claims 1, 23, 28, 32, 36; OR

repeating step (i), (ii) and moving successive ones of the remaining portion into the first portion to further generating the first portion of the debugged program for deployment as recited in claim 27.

Tseng et al, USPN: 6,009,256, discloses a hardware/software *SEmulation* system wherein simulation of a target device is implemented by a software model using generic computer, and a

hardware model using a hardware configuration hardware for simulation. Tseng's hardware

simulation side utilizes programmable array of executable devices as accelerators to support in-

circuit emulation and post-simulation analysis, and this HW execution can be switched over

dynamically to the software model simulation in order to obtain user's input and control

directives in regard to the simulation. Even though Tseng teaches switch-over to obtain user

control on the HW simulation, and a post analysis by which portion of the HW simulation code

can be readjusted by the user's directive and sent back for some further simulation alternating

with debug, Tseng's co-simulation already establishes clear demarcation between how much is

to be run in hardware model and/or software model; in that Tseng's alternating user-driven

debug interventions does not amount to one single iterative process to generate a debugged

program; i.e. one process to generate consecutive code portions converting (for deployment)

while keeping the remaining and un-deployed portions in a concurrent debug session. Nor does

Tseng teach that the post-analysis process is concurrent to the deployment on the hardware

programmable device (PHE) of the invention; according to which, the HW deployment portion is

a subset of the main program being concurrently debugged, such that this debugged portion (via

computer system and user input) is progressively converted into this HW deployable

portion/subset as recited, for example, **in claim 27**. In all, Tseng fails to teach or suggest an

iterative process of converting a first portion of a target program (a debugged program) into a

corresponding deployable portion via PHE, while executing a remaining portion of said target

program in a concurrent user debug session, whereby code from the debug session is moved into

the first portion for successive PHE deployment, so that the repeating sequence of said

converting (for deployment on a PHE) followed by the readjusting of first portion size as a result

of the code moving leads to generating of a debugged program that has size successively

increased; as recited in the combination of (i) (ii) (iii) and (iv) as set forth above, and recited in

claims 1, 23, 28, 32, 36.

Any comments considered necessary by applicant must be submitted no later than the

payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for

Allowance."

Conclusion

6.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Tuan A Vu whose telephone number is (272) 272-3735. The

examiner can normally be reached on 8AM-4:30PM/Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached on (571)272-3756.

The fax phone number for the organization where this application or proceeding is

assigned is (571) 273-3735 (for non-official correspondence - please consult Examiner before

using) or 571-273-8300 (for official correspondence) or redirected to customer service at 571-

272-3609.

Any inquiry of a general nature or relating to the status of this application should be

directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be

obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan A Vu
Patent Examiner,
Art Unit 2193
July 07, 2007